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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/581,470	LERCHE, THOMAS	
	Examiner	Art Unit	
	Patrick F. O'Reilly III	3749	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 April 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-5 and 7-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-5 and 7-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 June 2008* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *1/8/2009; 2/24/2009; 4/7/2009*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to applicant's Request for Continued Examination (RCE) received on April 7, 2009.

Information Disclosure Statement

2. The information disclosure statements (IDSs) submitted on January 8, 2009, February 24, 2009, and April 7, 2009 are acknowledged. The submissions are in compliance with the provisions of 37 C.F.R. § 1.97 and 37 CFR § 1.98 and, therefore, the references therein have been considered.

Claim Notes

3. The language used in claim 12 of this application appears to invoke the sixth paragraph of 35 U.S.C. 112. According to the Manual of Patent Examining Procedure, "a claim limitation will be interpreted to invoke 35 U.S.C. 112, sixth paragraph, if it meets the following 3-prong analysis: (A) the claim limitations must use the phrase 'means for' or 'step for'; (B) the 'means for' or 'step for' must be modified by functional language; and (C) the phrase 'means for' or 'step for' must not be modified by sufficient structure, material or acts for achieving the specified function." See MPEP § 2181(I). In this application, claim 12 contains the phrase "means for" in lines 1 and 2 of the claim. Moreover, the phrase "means for" is modified by functional language in each occurrence. Furthermore, claim 12 satisfies the third prong of this analysis because neither of the "means for" clauses contains sufficient structural components for achieving the specified functions. Therefore, because claim 12 satisfies all three prongs of the analysis, this claim shall be treated under 35 U.S.C. 112, sixth paragraph.

Claim Objections

4. Claim 11 is objected to because of the following informality: in line 1 of this claim, the word "cabins" should be changed to the word "cabin". Appropriate correction is required.

5. Claim 12 is objected to because of the following informality: in line 3 of this claim, the examiner believes that parenthetical reference character "(28)" should be changed to parenthetical reference character "(30)". In the sole figure of this application, reference character "30" is used to denote the "temperature sensor" that is disposed within the "air jet", whereas reference character "28" is used to denote the "temperature sensor" that is disposed within the aircraft cabin. Appropriate correction is required.

6. Claim 12 also is objected to because of the following informality: in line 2 of this claim, it appears that parenthetical reference character "(22)", which denotes the "guide pipe" in the specification, is being used as an exemplary means for "generating at least one air jet". However, the examiner is uncertain as to how a "guide pipe" itself is capable of generating an air jet. Rather, it seems that a fan or blower is required to actually *generate* the air jet, whereas a "guide pipe" is merely capable of guiding the air jet into the aircraft cabin once it has been generated by the fan or blower. Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

9. Claim 12 recites the following limitation in line 2: "means for generating and directing at least one air jet *into the aircraft cabin*" (emphasis added). The use of this recited limitation renders this claim indefinite because it is unclear whether the "aircraft cabin" is being positively recited, or alternatively, is simply a recitation of the intended use of the claimed device. Thus, one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. For the purpose of an examination on the merits, the examiner has treated the phrase "into the aircraft cabin" in two alternative ways, namely as both a positively recited limitation and as a mere recitation of intended use. However, the Applicant should clarify the manner in which this phrase is being used in claim 12.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. **Claim 12** is rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent No. JP 59093141 ("JP '141"). The specification and the drawings in the JP '141 reference disclose all of the elements recited in **claim 12** of this application. For the purpose of this rejection, the phrase "into the aircraft cabin", which is recited in line 2 of claim 12, is being treated as a recitation of the intended use of the claimed device.

12. Specifically, in regard to claim 12, the JP '141 reference discloses all of the claimed elements, including: means (air blowing outlet structure 5, which is rotatably mounted within the discharge air slot 4 of the air conditioning unit) for generating and directing at least one air jet (as denoted by the flow arrows in Figs. 2 and 3) into the aircraft cabin (the air outlet assembly 4, 5, is capable of being used in an aircraft cabin); means (shape memory alloy coil 1) for measuring the temperature of the at least one air jet; and a means (fork link 6, which is coupled to shape memory alloy coil 1 via shaft 3 and upper plate 2) for altering the direction of the air jet dependent upon the measured air jet temperature (as sensed by the shape memory alloy coil 1), wherein the means (1, 2, 3, 6) for altering is adapted to rotate the means (5) for directing and generating about a horizontal axis (7) to rotatably change the direction of the air jet (as shown in Figs. 2 and 3). Refer to JP '141, Figures 2-3; also refer to attached English abstract for JP '141. Therefore, because all of the elements in claim 12 of this application are disclosed by the JP '141 reference, this claim is rejected in accordance with 35 U.S.C. 102(b).

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

14. **Claims 2-4 and 7-21** are rejected under 35 U.S.C. 103(a) as being unpatentable over Goode et al. (US 3,203,473) in view of Japanese Patent No. JP 59093141 ("JP '141"). These two references, when considered together, teach all of the elements recited in **claims 2-4 and 7-**

21 of this application, except for obvious matters of design choice and certain optimized claimed ranges (claims 9 and 15-21).

15. In particular, claim 11 of this application is obvious when Goode et al. is viewed in light of the JP '141 reference. Goode et al. discloses the following limitations of the claimed invention: generating (e.g., by means of the fan inside air conditioning unit 22) and directing at least one air jet into the aircraft cabin (aircraft compartment – see Figs. 1 and 2), via at least one blower (e.g., multiplicity of air blower nozzles 27 in overhead manifold 26) so as to provide heated and cooled air to the aircraft cabin (aircraft compartment). Refer to Goode et al., Figures 1-2; column 2, lines 35-40; column 3, lines 18-23.

However, claim 11 of this application further discloses the steps of measuring the temperature of the air jet; and altering the direction and/or the impulse of the air jet depending upon the measured temperature, wherein the altering occurs via rotation of the blower. Goode et al. does not disclose these additional steps.

The JP '141 reference, although, teaches a method for adjusting the angle of an air-blowing outlet, wherein a shape memory alloy coil (1) measures/senses the temperature of the discharged air jet, and then, alters the direction of the discharged air jet depending upon the measured temperature by pivoting the air blowing outlet (5) about a horizontal axis (7), for the purpose of automatically adjusting the discharge angle of a supply air jet in response to the air jet temperature so that occupant comfort may be optimized during both heating and cooling modes. See JP '141, Figures 2-3; also refer to attached English abstract for JP '141. Therefore, when Goode et al. is viewed in light of the JP '141 reference, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the aircraft cabin

air-conditioning method of Goode et al. by additionally measuring the air jet temperature and altering the direction of the air jet based upon the measured temperature by rotating the blower nozzles, as taught by the JP '141 reference, in order to automatically adjust the discharge angle of the supply air jet in response to the air jet temperature so that passenger comfort may be optimized during both heating and cooling modes. Refer to the attached English abstract for JP '141.

16. In regard to claim 2, the modified air-conditioning method of Goode et al. further teaches that the temperature of the air jet is measured at a location spaced from the blower (the shape memory alloy coil 1, which measures the air jet temperature, is located rearwardly of, and spaced apart from, the air blowing outlet). See JP '141, Figures 2-3. Therefore, Goode et al. in view of the JP '141 reference also renders the limitations set forth in this claim obvious.

17. In regard to claim 3, Goode et al. further discloses that the air jet is directed into the cabin (aircraft compartment) from the ceiling area (the multiplicity of air blower nozzles 27 in overhead manifold 26 are located at the ceiling of the aircraft compartment). Refer to Goode et al., Figure 2 and column 2, lines 35-40. Consequently, Goode et al. in view of the JP '141 reference also renders the limitations set forth in claim 3 obvious.

18. In regard to claim 4, the modified air-conditioning method of Goode et al. further teaches that, as the temperature of the air jet rises, its angle with respect to the vertical is made smaller (heated air flow causes the shape memory alloy coil 1 to expand, which in turn, causes the air outlet to be pivoted downward, thereby reducing the angle that the air jet makes with a vertical reference plane). See the attached English abstract for JP '141. Thus, Goode et al. in view of the JP '141 reference also renders the limitations set forth in claim 4 obvious.

19. In regard to claim 18, the modified air-conditioning method of Goode et al. further teaches a rotation device (fork link 6, which is coupled to shape memory alloy coil 1 via shaft 3 and upper plate 2) with which the means (air blower nozzles 27) for generating and directing the air jet can be rotated about a horizontal axis (7), so as to vary the vertical angle of the air jet. Refer to Goode et al., Figures 1-2; column 2, lines 35-40; also refer to JP '141, Figures 2-3 and the attached English abstract for JP '141. Therefore, Goode et al. in view of the JP '141 reference also renders the limitations set forth in this claim obvious.

20. Moreover, claims 19-21 of this application are obvious when Goode et al. is viewed in light of the JP '141 reference. Goode et al., as modified by the JP '141 reference, teaches all of the elements of claims 19-21, except for (claim 19) setting the air jet angle within the range from 10 to 30 degrees for an air jet temperature of about 25 degrees Celsius, (claim 20) setting the air jet angle within the range from 45 to 60 degrees for an air jet temperature of about 15 degrees Celsius, and (claim 21) setting the air jet angle within the range from 75 to 90 degrees for an air jet temperature of about 9 degrees Celsius. However, it has been held that "[w]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation". See MPEP § 2144.05(II)(A) (quoting *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). Although, it has further been held that "[a] particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation. Refer to MPEP § 2144.05(II)(B) (quoting *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). In regard to claims 19-21 of this application, the prior art, namely the JP '141 reference, clearly teaches that

both the angular position of the air outlet device and the air jet temperature are variable parameters. Refer to the attached English abstract for JP '141. Moreover, the angular position of the air outlet device and the air jet temperature are also result-effective variables because the conditioning of the aircraft cabin, and consequently passenger comfort, will be affected as a result of varying these two parameters (e.g., if warm air is discharged horizontally, i.e., a angle of approximately 90 degrees, it is will unlikely reach the occupied zone of the aircraft cabin). Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to select an angular range of 10 to 30 degrees for an air jet temperature of about 25 degrees Celsius, an angular range of 45 to 60 degrees for an air jet temperature of about 15 degrees Celsius, and an angular range of 75 to 90 degrees for an air jet temperature of about 9 degrees Celsius, because the selection of these particular angular ranges for each associated air jet temperature merely constitutes the optimization of design parameters which fails to patentably distinguish claims 19-21 in this application over the aircraft cabin air-conditioning method of Goode et al., as modified by the JP '141 reference.

21. Furthermore, claim 12 of this application is obvious when Goode et al. is viewed in light of the JP '141 reference. For the purpose of this rejection, the phrase "into the aircraft cabin", which is recited in line 2 of claim 12, is being treated as a positive recitation of the "aircraft cabin". With respect to claim 12, Goode et al. discloses the following elements of the claimed invention: means for generating (e.g., fan inside air conditioning unit 22) and directing (e.g., multiplicity of air blower nozzles 27 in overhead manifold 26) at least one air jet into the aircraft cabin (aircraft compartment) so as to provide heated and cooled air to the aircraft cabin (aircraft compartment). Refer to Goode et al., Figures 1-2; column 2, lines 35-40; column 3, lines 18-23.

However, claim 12 of this application further discloses a means for measuring the temperature of the at least one air jet; and a means for altering the direction and/or the impulse of the air jet dependent upon the measured air jet temperature, wherein the means for altering is adapted to rotate the means for directing and generating to rotatably change the direction of the air jet. Goode et al. does not contain these additional limitations.

The JP '141 reference, although, teaches an angularly adjustable air-blowing outlet having a means (shape memory alloy coil 1) for measuring the temperature of at least one air jet; and a means (fork link 6, which is coupled to shape memory alloy coil 1 via shaft 3 and upper plate 2) for altering the direction of the air jet dependent upon the measured air jet temperature (as sensed by the shape memory alloy coil 1) by pivoting the air blowing outlet (5) about a horizontal axis (7), for the purpose of automatically adjusting the discharge angle of a supply air jet in response to the air jet temperature so that occupant comfort may be optimized during both heating and cooling modes. See JP '141, Figures 2-3; also refer to attached English abstract for JP '141. Therefore, when Goode et al. is viewed in light of the JP '141 reference, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the aircraft cabin air-conditioning blower nozzle system of Goode et al. by adding a temperature sensing means (1) to the air blower nozzles, and a mechanical rotation means (2, 3, 6) for pivoting the air blower nozzles in response to the sensed temperature, as taught by the JP '141 reference, in order to automatically adjust the discharge angle of the supply air jet in response to the air jet temperature so that passenger comfort may be optimized during both heating and cooling modes. Refer to the attached English abstract for JP '141.

22. In regard to claim 7, the modified aircraft cabin air-conditioning blower nozzle system of Goode et al. further teaches that the means (2, 3, 6) for altering the direction of the air jet has a component (shape memory alloy coil 1) with a temperature-dependent form (a high temperature air jet causes the shape memory alloy coil 1 to expand, whereas a low temperature air jet causes the shape memory alloy coil 1 to contract). See JP '141, Figures 2-3 and the attached English abstract for JP '141. Therefore, Goode et al. in view of the JP '141 reference also renders the limitations set forth in this claim obvious.

23. In regard to claim 8, the modified aircraft cabin air-conditioning blower nozzle system of Goode et al. further teaches that the component (1) includes a shape memory alloy. Refer to the attached English abstract for JP '141. Consequently, Goode et al. in view of the JP '141 reference also renders the limitations set forth in claim 8 obvious.

24. Claim 9 of this application also is obvious when Goode et al. is viewed in light of the JP '141 reference. As described above, Goode et al., as modified by the JP '141 reference, discloses all the elements of base claim 7, the claim upon which this claim depends. However, claim 9 of this application further discloses that the temperature sensing component has a bi-metallic element. Goode et al., as modified by the JP '141 reference, does not expressly disclose this additional limitation. Although, at the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to use either the shape memory alloy disclosed in the JP '141 reference for the temperature sensing component, or alternatively, a bi-metallic element for the temperature sensing component as recited in claim 9 of this application, because the applicant has not disclosed that using a bi-metallic element for the temperature sensing component provides an advantage, is used for a particular purpose, or

solves a stated problem. One of ordinary skill in the art, furthermore, would have expected the applicant's invention to perform equally well with a temperature sensing element in the form of a shape memory alloy, as taught by the JP '141 secondary reference, because a shape memory alloy also readily responds to changes in air temperature by altering its shape. See the attached English abstract for JP '141.

25. In regard to claim 10, the modified aircraft cabin air-conditioning blower nozzle system of Goode et al. further teaches that the means (shape memory alloy coil 1) for measuring the temperature is positioned in such a way as to measure the temperature of the air jet at a location spaced away from the means for generating and directing (the shape memory alloy coil 1, which measures the air jet temperature, is located rearwardly of, and spaced apart from, the air blowing outlet). See JP '141, Figures 2-3. Thus, Goode et al. in view of the JP '141 reference also renders the limitations set forth in claim 10 obvious.

26. In regard to claim 13, the modified air-conditioning blower nozzle system of Goode et al. further teaches a rotation device (fork link 6, which is coupled to shape memory alloy coil 1 via shaft 3 and upper plate 2) with which the means (air blower nozzles 27) for generating and directing the air jet can be rotated about a horizontal axis (7), so as to vary the vertical angle of the air jet. Refer to Goode et al., Figures 1-2; column 2, lines 35-40; also refer to JP '141, Figures 2-3 and the attached English abstract for JP '141. Therefore, Goode et al. in view of the JP '141 reference also renders the limitations set forth in this claim obvious.

27. In regard to claim 14, the modified aircraft cabin air-conditioning blower nozzle system of Goode et al. further teaches that the means for altering the direction of the air jet is adapted to make smaller the angle of the air jet with respect to the vertical as the temperature of the air jet

rises (heated air flow causes the shape memory alloy coil 1 to expand, which in turn, causes the air outlet to be pivoted downward, thereby reducing the angle that the air jet makes with a vertical reference plane). See the attached English abstract for JP '141. Consequently, Goode et al. in view of the JP '141 reference also renders the limitations set forth in claim 14 obvious.

28. In addition, claims 15-17 of this application are obvious when Goode et al. is viewed in light of the JP '141 reference. Goode et al., as modified by the JP '141 reference, teaches all of the elements of claims 15-17, except for the means for altering the direction and/or the impulse of the air jet being adapted to set the angle within the following ranges: (claim 15) from 10 to 30 degrees when the temperature of the air jet is about 25 degrees Celsius, (claim 16) from 45 to 60 degrees when the temperature of the air jet (26) is about 15 degrees Celsius, and (claim 17) from 75 to 90 degrees when the temperature of the air jet (26) is about 9 degrees Celsius. However, it has been held that "[w]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation". See MPEP § 2144.05(II)(A) (quoting *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). Although, it has further been held that "[a] particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation. Refer to MPEP § 2144.05(II)(B) (quoting *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). In regard to claims 15-17 of this application, the prior art, namely the JP '141 reference, clearly teaches that both the angular position of the air outlet device and the air jet temperature are variable parameters. Refer to the attached English abstract for JP '141. Moreover, the angular position of the air outlet device and the air jet temperature are also

result-effective variables because the conditioning of the aircraft cabin, and consequently passenger comfort, will be affected as a result of varying these two parameters (e.g., if warm air is discharged horizontally, i.e., a angle of approximately 90 degrees, it is will unlikely reach the occupied zone of the aircraft cabin). Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to select an angular range of 10 to 30 degrees for an air jet temperature of about 25 degrees Celsius, an angular range of 45 to 60 degrees for an air jet temperature of about 15 degrees Celsius, and an angular range of 75 to 90 degrees for an air jet temperature of about 9 degrees Celsius, because the selection of these particular angular ranges for each associated air jet temperature merely constitutes the optimization of design parameters which fails to patentably distinguish claims 15-17 in this application over the aircraft cabin air-conditioning blower nozzle system of Goode et al., as modified by the JP '141 reference.

29. **Claim 11** is alternatively rejected under 35 U.S.C. 103(a) as being unpatentable over Yoneda et al. (US 4,742,692) in view of Japanese Patent No. JP 61240055 A ("JP '055"). These two references, when considered together, teach all of the elements recited in **claim 11** of this application.

30. In particular, claim 11 of this application is obvious when Yoneda et al. is viewed in light of the JP '055 reference. Yoneda et al. discloses the invention substantially as claimed, including: generating (e.g., by means of fan 8) and directing at least one air jet into the aircraft cabin (see col. 11, ln 6-13), via at least one blower (e.g., air blowout conduits 32a, 32b); measuring the temperature in the space via floor and ceiling temperature sensors (19, 18); and altering the direction of the air jet depending upon the measured temperatures (conduits 32a, 32b

are rotated in accordance with the difference between the temperatures measured on the floor and ceiling sides by sensors 18, 19), wherein the altering occurs via rotation of the blower (rotating conduits 32a, 32b are mechanically coupled to actuating motor 46 via rack 42 and gears 44b, 45, 48, and the actuating motor 46 is in electrical communication with the temperature sensors 18, 19 via a control circuit). Refer to Yoneda et al., Figures 1a-1c, 4, 10, and 11; column 5, lines 2-68.

However, claim 11 of this application further discloses the steps of measuring the temperature of the air jet; and altering the direction and/or the impulse of the air jet depending upon the measured temperature of the air jet. Yoneda et al. does not disclose these additional steps.

The JP '055 reference, although, teaches a method for adjusting the angle of an air-blowing outlet (1), wherein a temperature detector provided in the air passageway of the air-blowing outlet (1) senses the temperature of the discharged air jet, and then, alters the direction of the discharged air jet depending upon the measured temperature by pivoting the flow control vanes (2a, 2b), for the purpose of automatically adjusting the discharge angle of a supply air jet in response to the air jet temperature so that cold air is not blown directly downward on the occupants of the space, thereby improving occupant comfort. See JP '055, Figures 2 and 5; also refer to attached English abstract for JP '055. Therefore, when Yoneda et al. is viewed in light of the JP '055 reference, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the aircraft cabin air-conditioning method of Yoneda et al. by additionally measuring the air jet temperature and altering the direction of the air jet (discharged from the air blowout conduits 32a, 32b) based upon the measured temperature, as

taught by the JP '055 reference, in order to automatically adjust the discharge angle of a supply air jet in response to the air jet temperature so that cold air is not blown directly downward on the occupants of the cabin, thereby improving occupant comfort. Refer to the attached English abstract for JP '055.

31. **Claim 5** is rejected under 35 U.S.C. 103(a) as being unpatentable over Goode et al. (US 3,203,473) in view of Japanese Patent No. JP 59093141 ("JP '141") as applied to claim 11 above, and further in view of de Villiers et al. (US 5,647,532). These three references, when considered together, teach all of the elements recited in **claim 5** of this application.

32. In particular, claim 5 of this application is obvious when Goode et al. is viewed in light of the JP '141 reference, and further viewed in light of de Villiers et al. As described above, Goode et al., as modified by the JP '141 reference, discloses all the elements of base claim 11, the claim upon which this claim depends. However, claim 5 of this application further discloses that, as the temperature of the air jet rises, its impulse is increased. Goode et al., as modified by the JP '141 reference, does not contain this additional limitation. The de Villiers et al. reference, although, teaches a thermally actuated air diffuser that includes a movable baffle (106) controlled by a thermally sensitive element (22) in the duct (D) airstream, wherein when heated air flows in the ducting (D), the baffle (106) descends to the fully open position of the diffuser so as to deliver the maximum amount of heated into the space for the purpose of raising the temperature in the occupied space as quick as possible, especially when the occupied space is significantly below the desired temperature setpoint. Refer to de Villiers et al., Figures 1-2; column 5, lines 9-10 and 49-63. Therefore, when Goode et al. is viewed in light of the JP '141 reference, and further viewed in light of de Villiers et al., it would have been obvious to one having ordinary

skill in the art at the time the invention was made to modify the aircraft cabin air-conditioning method of Goode et al. in view of the JP '141 reference by additionally increasing the impulse of the air jet as the air jet temperature rises (by using an additional temperature sensitive element operatively connected to a movable baffle), as taught by de Villiers et al., in order to raise the temperature in the cabin as quickly as possible, especially when the cabin is significantly below the desired temperature. See de Villiers et al., column 5, lines 59-63.

Response to Arguments

33. Applicant's arguments with respect to pending claims 2-5 and 7-21 have been considered but are moot in view of the new ground(s) of rejection.

Moreover, in response to applicant's arguments based upon the age of the relied upon references, contentions that the reference patents are old are not impressive absent a showing that the art tried and failed to solve the same problem notwithstanding its presumed knowledge of the references. See *In re Wright*, 569 F.2d 1124, 193 USPQ 332 (CCPA 1977). Consequently, in this case, the fact that the JP '141 secondary reference was published almost 20 years before the filing date of the German priority application upon which this application is based, does not support a finding of patentability for the claimed subject matter.

Conclusion

34. See attached form PTO-892 for additional pertinent prior art, which was not directly relied upon in this action.

35. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick F. O'Reilly III whose telephone number is (571) 272-3424. The examiner can normally be reached on Monday through Friday, 8:30 am to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven B. McAllister can be reached on (571) 272-6785. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Patrick F. O'Reilly III/
Examiner, Art Unit 3749

/Steven B. McAllister/
Supervisory Patent Examiner, Art Unit 3749